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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,004	03/30/2004	Toshio Hanada	H6808.0051/P051	2652
24998	7590	08/27/2007		
DICKSTEIN SHAPIRO LLP 1825 EYE STREET NW Washington, DC 20006-5403			EXAMINER VATHYAM, SUREKHA	
			ART UNIT 1753	PAPER NUMBER
			MAIL DATE 08/27/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/812,004

Applicant(s)

HANADA ET AL.

Examiner

Surekha Vathyam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 – 2 and 5 – 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Kernan et al. (US 5,885,430).

Regarding claim 1, Kernan ('430) discloses a capillary array (see figs. 1, 2A and 2B) comprising; a plurality of capillaries (148) for holding a separation medium for separating a sample (column 1, lines 28 – 30 and column 3, lines 2 – 5); a detecting portion (46, 130) for maintaining alignment of the capillaries (column 4, lines 10 – 15); a capillary head (36, 92) for bundling and holding capillaries to one end of the capillaries (column 5, lines 3 – 11); and a load header (42, 82) including an insulated (column 4, line 65 – column 5, line 2) holder (162), a conductive connection plate (172) and an insulating (column 4, line 65 – column 5, line 2) member (168) and for supporting tubular electrodes (140), wherein the insulated holder is provided at sample injection end portions of the capillaries (column 5, lines 3 – 6); the tubular electrodes are fixed to the insulated holder (column 5, line 66 – column 6, line 1), to allow insertion of sample injection end portions of capillaries (column 6, lines 13 – 15); the conductive connection plate has bores (174) for insertion of the tubular electrodes, supported by the insulated

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holder (column 7, lines 17 – 19) and electrically connects the tubular electrodes with each other (column 7, lines 27 – 30); the insulating member covers a conductive portion including a connecting portion (portion near 174, 176, 178) between the conductive connection plate and the tubular electrodes in collaboration with the insulating holder and electrically insulates the connecting portion from the other portions (see fig. 3B wherein 168 in collaboration with 162, electrically insulates and covers 172 from other portions); and the insulated holder, the insulating member and the tubular electrodes are substantially closely arranged without gaps among these elements (column 6, lines 42 – 50 and column 7, lines 18 – 26).

Regarding claim 2, Kernan ('430) discloses the capillary array wherein a filling material (154) is applied to a gap between the insulated holder and conductive connection plate and/or to a gap between the conductive connection plate and insulating member (column 6, lines 24 – 31 and column 6, lines 42 – 50 and column 7, lines 18 – 26).

Regarding claim 5, Kernan ('430) discloses an electrophoresis apparatus (column 1, lines 6 – 7) comprising; a capillary array (see figs. 1, 2A and 2B) comprising; a plurality of capillaries (148) for holding a separation medium (column 1, lines 28 – 30 and column 3, lines 2 – 5) for separating a fluorescence labeled sample (column 4, lines 21 – 22 and column 4, lines 24 – 30); a detecting portion (46, 130) for maintaining alignment of the capillaries (column 4, lines 10 – 15); a capillary head (36, 92) for bundling and holding capillaries to one end of the capillaries (column 5, lines 3 – 11); a

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load header (42, 82) including an insulated (column 4, line 65 – column 5, line 2) holder (162), a conductive connection plate (172) and an insulating (column 4, line 65 – column 5, line 2) member (168) and for supporting tubular electrodes (140), wherein the insulated holder is provided at sample injection end portions of the capillaries (column 5, lines 3 – 6); the tubular electrodes are fixed to the insulated holder (column 5, line 66 – column 6, line 1), to allow insertion of sample injection end portions of capillaries (column 6, lines 13 – 15); the conductive connection plate has bores (174) for insertion of the tubular electrodes, supported by the insulated holder (column 7, lines 17 – 19) and electrically connects the tubular electrodes with each other (column 7, lines 27 – 30); the insulating member covers a conductive portion including a connecting portion (portion near 174, 176, 178) between the conductive connection plate and the tubular electrodes in collaboration with the insulating holder and electrically insulates the connecting portion from the other portions (see fig. 3B wherein 168 in collaboration with 162, electrically insulates and covers 172 from other portions); and the insulated holder, the insulating member and the tubular electrodes are substantially closely arranged without gaps among these elements (column 6, lines 42 – 50 and column 7, lines 18 – 26).

Regarding claim 6, Kernan ('430) discloses the electrophoresis apparatus wherein a filling material (154) is applied to a gap between the insulated holder and conductive connection plate and/or to a gap between the conductive connection plate and insulating member (column 6, lines 24 – 31 and column 6, lines 42 – 50 and column 7, lines 18 – 26).

3. Claims 1 – 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Kasai et al. (US 2002/0139672).

Regarding claim 1, Kasai ('672) discloses a capillary array (see figs. 2 and 3) comprising; a plurality of capillaries (1) for holding a separation medium for separating a sample ([0002]); a detecting portion (5) for maintaining alignment of the capillaries ([0003]); a capillary head (17) for bundling and holding capillaries to one end of the capillaries ([0003]); and a load header (4) including an insulated holder (25), a conductive connection plate (23) and an insulating member (26) and for supporting tubular electrodes (20), wherein the insulated holder is provided at sample injection end portions of the capillaries (see fig. 2 and [0004]); the tubular electrodes are fixed to the insulated holder, to allow insertion of sample injection end portions of capillaries (see figs. 1A and 1B and [0008]); the conductive connection plate has bores (30) for insertion of the tubular electrodes, supported by the insulated holder and electrically connects the tubular electrodes with each other (see fig. 1C and [0058] – [0059]); the insulating member covers a conductive portion including a connecting portion between the conductive connection plate and the tubular electrodes in collaboration with the insulating holder and electrically insulates the connecting portion from the other portions (see figs. 1A – 1D, 14A – 14D and 20A – 20C); and the insulated holder, the insulating member and the tubular electrodes are substantially closely arranged without gaps among these elements ([0015], [0026] – [0027]).

Regarding claim 2, Kasai ('672) discloses the capillary array wherein a filling material (27) is applied to a gap between the insulated holder and conductive connection plate and/or to a gap between the conductive connection plate and insulating member ([0071]).

Regarding claim 3, Kasai ('672) discloses the capillary array wherein the filling material includes inorganic powders or metal powders and has higher heat conductance than the air ([0071]).

Regarding claim 4, Kasai ('672) discloses the capillary array wherein a conductive resin is substituted for the conductive connection plate within the load header to electrically connect the tubular electrodes with each other (see figs. 11A – 11B and 12A – 12B and [0022], [0066] – [0069]).

Regarding claim 5, Kasai ('672) discloses an electrophoresis apparatus ([0001]) comprising; a capillary array (see figs. 2 and 3) comprising; a plurality of capillaries (1) for holding a separation medium ([0002]) for separating a fluorescence labeled sample ([0004]); a detecting portion (5) for maintaining alignment of the capillaries ([0003]); a capillary head (17) for bundling and holding capillaries to one end of the capillaries ([0003]); a load header (4) including an insulated holder (25), a conductive connection plate (23) and an insulating member (26) and for supporting tubular electrodes (20), wherein the insulated holder is provided at sample injection end portions of the capillaries (see fig. 2 and [0004]); the tubular electrodes are fixed to the insulated holder, to allow insertion of sample injection end portions of capillaries (see figs. 1A and

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1B and [0008]); the conductive connection plate has bores (30) for insertion of the tubular electrodes, supported by the insulated holder and electrically connects the tubular electrodes with each other (see fig. 1C and [0058] – [0059]); the insulating member covers a conductive portion including a connecting portion between the conductive connection plate and the tubular electrodes in collaboration with the insulating holder and electrically insulates the connecting portion from the other portions (see figs. 1A – 1D, 14A – 14D and 20A – 20C); and the insulated holder, the insulating member and the tubular electrodes are substantially closely arranged without gaps among these elements ([0015], [0026] – [0027]).

Regarding claim 6, Kasai ('672) discloses the capillary array wherein a filling material (27) is applied to a gap between the insulated holder and conductive connection plate and/or to a gap between the conductive connection plate and insulating member ([0071]).

Regarding claim 7, Kasai ('672) discloses the capillary array wherein the filling material includes inorganic powders or metal powders and has higher heat conductance than the air ([0071]).

Regarding claim 8, Kasai ('672) discloses the capillary array wherein a conductive resin is substituted for the conductive connection plate within the load header to electrically connect the tubular electrodes with each other (see figs. 11A – 11B and 12A – 12B and [0022], [0066] – [0069]).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 3 – 4 and 7 – 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kernan et al. (US 5,885,430) in view of Inaba et al. (US 2002/0023839).

Kernan ('430) discloses the capillary array as discussed with regards to each of claims 2 and 6 above. Regarding each of claims 3 and 7, Kernan ('430) does not explicitly disclose the filling material includes inorganic powders or metal powders.

Inaba ('839) teaches a capillary array (1) wherein a filling material (18) is applied to a gap between the capillary array and an array holder (13) and/or a holder cover (16) (see figs. 1A and 1B and [0040]) wherein the filling material includes inorganic powders or metal powders and has higher heat conductance than the air ([0014] – [0015], [0020] and [0040]).

It would have been obvious to one of ordinary skill in the art to have modified filling material of the capillary array of Kernan ('430) to include inorganic powders or metal powders as taught by Inaba ('839) because Inaba ('839) explains these powders help dissipate Joule heat generated in the capillaries and thereby effectively enhance the resolution in the electrophoresis ([0014]).

Regarding claim 4, Kernan ('430) discloses the capillary array wherein a conductive resin is substituted for the conductive connection plate within the load header to electrically connect the tubular electrodes with each other (column 6, lines 32 – 37; column 6, line 51 – column 7, line 17 and column 7, lines 34 – 47).

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Regarding claim 8, Kernan ('430) discloses the electrophoresis apparatus wherein a conductive resin is substituted for the conductive connection plate within the load header to electrically connect the tubular electrodes with each other (column 6, lines 32 – 37; column 6, line 51 – column 7, line 17 and column 7, lines 34 – 47).

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 1 –8 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 3 of copending Application No. 10/732,221 in view of Kasai et al. (US 2002/0139672). Specifically, instant claims 1 – 3 and 5 – 7 are rejected as being unpatentable over

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claim 1 and instant claims 4 and 8 over claim 2. Although the conflicting claims are not identical, they are not patentably distinct from each other because the indicated claims of copending Application No. 10/732,221 include all the limitations of the corresponding indicated instant claims. However claim 1 does not explicitly disclose the load header including an insulated holder, a conductive connection plate and an insulating member as recited by instant claims 1 and 5. Kasai ('672) teaches these features as discussed under "Claim Rejections - 35 USC § 102" section above. It would have been obvious to one of ordinary skill in the art to have included the elements of the load header in claim 1 of copending Application No. 10/732,221 as taught by Kasai ('672) because as Kasai ('672) explains the load header with its components helps draw samples into respective capillaries during electrophoresis by sealing the capillaries and preventing them from slipping out and thereby avoiding high voltage leak ([0003] and [0008]).

This is a provisional obviousness-type double patenting rejection.

Response to Arguments

10. Applicant's arguments filed 11 July 2007 have been fully considered but they are not persuasive. Regarding rejection of independent claims 1 and 5 as being anticipated under 35 USC § 102(b) by Kernan ('430), applicant argues that Kernan ('430) fails to disclose, teach or suggest a load header including an insulating member, wherein "the insulating member covers a conductive portion including a connecting portion between the conductive connection plate and the tubular electrodes in collaboration with the

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insulating holder". Kernan ('430) however does disclose these features as seen in fig. 3B wherein insulating member (168) in collaboration with insulating holder (162), electrically insulates and covers a conductive portion including a connecting portion (portions near 174, 176, 178) between the conductive connection plate (172) and tubular electrodes (140) from other portions. Applicant's remarks regarding the provisional double patenting rejection of claims 1 – 8 as being unpatentable over claims 1 and 2 copending Application No. 10/732,221, are not persuasive. Claim 1 of '221 application currently recites all limitations of instant independent claims 1 and 5 except for an insulated holder, a conductive connection plate and an insulating member in the load header. Kasai ('672) overcomes these deficiencies. The heat transfer medium selected from the group consisting of solids, liquids and gels filled between each load header and capillary recited in claim 1 of '221 application along with the cement recited in claim 3 correspond to the recitations in instant claims 2 – 3 and 6 – 7.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Surekha Vathyam whose telephone number is 571-272-2682. The examiner can normally be reached on 7:30 AM to 4:00 PM.

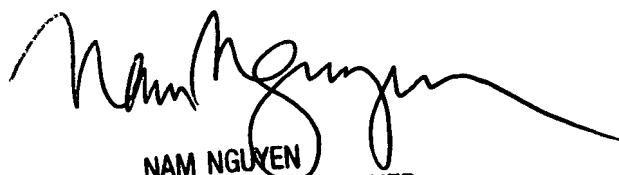
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/SV/

22 August 2007


NAM NGUYEN
SUPERVISORY PATENT EXAMINER
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